

**What is claimed is:**

1. A mobile Internet Protocol (IP) system, comprising:

5 a mobile node initially linked to a first foreign network;

a home agent receiving a set of data packets, which are supposed to be transmitted to said mobile node, said home agent being included in a home network of said mobile node; and

10 a first foreign agent initially receiving said packets from said home agent and storing them in a buffer and additionally sending said stored packets to a second foreign agent included in a second foreign network if said mobile node is moved to said second foreign network, said first foreign agent being included in said first foreign network.

15 2. The mobile IP system of claim 1, wherein said first foreign agent deletes said stored packets after sending said stored packets to said second foreign agent.

20 3. The mobile IP system of claim 1, wherein said first foreign agent additionally sends said stored packets to said mobile node if said mobile node continues to be linked to said first foreign network.

4. The mobile IP system of claim 3, wherein said first foreign agent deletes said stored packets after sending said stored packets to said mobile node.

5 5. The mobile IP system of claim 1, wherein said buffer is coupled to said first foreign agent.

10 6. The mobile IP system of claim 1, wherein said mobile node sends a notification message to said first foreign agent if said mobile node is moved to said second foreign network.

15 7. The mobile IP system of claim 6, wherein said first foreign agent determines whether said mobile node is moved to said second foreign network by checking whether said notification message is received from said mobile node.

8. A method of transmitting data in a mobile Internet Protocol (IP) network, the method comprising the steps of:

20 (a) transmitting a set of data packets to a home agent of a mobile node, said mobile node being currently linked to a first foreign network having a first foreign agent;

(b) sending said packets received by said home agent to said first foreign agent and storing them in a first buffer;

(c) sending a notification message to said first foreign agent if said mobile node moves to a second foreign network having a second foreign agent;

(d) sending said packets stored in said first buffer to said second foreign agent and storing them in a second buffer if said first foreign agent receives said notification message; and

(e) transmitting said packets stored in said second buffer to said mobile node.

9. The method of claim 8, wherein said first buffer is coupled to said first foreign agent.

10. The method of claim 8, wherein said second buffer is coupled to said second foreign agent.

11. The method of claim 8 further comprising a step of deleting said packets stored in said first buffer after sending said packets stored in said first buffer to said second foreign agent.

12. The method of claim 8 further comprising a step of transmitting said packets stored in said first buffer to said mobile node if said mobile node continues to be linked to said first foreign network.

13. The method of claim 12 further comprising a step of deleting said packets stored in said first buffer after transmitting said packets stored in said first buffer to said mobile node.

14. The method of claim 8, wherein said notification message is generated from said mobile node.

15. A data routing method of a first foreign agent in a mobile Internet Protocol (IP) network, the method comprising the steps of:

(a) receiving a set of data packets and storing them in a buffer;

(b) determining a mobile node to which said packets are supposed to be transmitted;

(c) determining if said determined mobile node is moved to a second foreign network having a second foreign agent; and

(d) transmitting said packets stored in said buffer to said second foreign agent if said mobile node is moved to said second foreign network.

16. The method of claim 15 further comprising a step of deleting said packets stored in said buffer after transmitting said packets stored in said buffer to said second foreign agent.

5 17. The method of claim 15 further comprising a step of transmitting said packets stored in said buffer to said mobile node if said mobile node continues to be linked to said first foreign network.

10 18. The method of claim 17 further comprising a step of deleting said packets stored in said buffer after transmitting said packets stored in said buffer to said mobile node.

15 19. The method of claim 15, wherein said buffer is coupled to said first foreign agent.

20 20. The method of claim 15, wherein said mobile node sends a notification message to said first foreign agent if said mobile node is moved to said second foreign network.

21. The method of claim 20, wherein said determination step (c) is performed by checking whether said notification message is received from said mobile node.

22. The method of claim 20, wherein an IP address of said second foreign agent is indicated in said notification message.